7-30-2002

DDASaccident456

Humanitarian Demining Accident and Incident Database
AID

DDAS Accident Report

Accident details

Report date:	03/01/2008	**Accident number:**	456
Accident time:	10:00	**Accident Date:**	30/07/2002
Where it occurred:	CMT Minefield, Pailin	**Country:**	Cambodia
Primary cause:	Management/control inadequacy (?)	**Secondary cause:**	Inadequate equipment (?)
Class:	Missed-mine accident	**Date of main report:**	01/08/2002
ID original source:	None	**Name of source:**	CMAC
Organisation:	[Name removed]		
Mine/device:	Type 72 AP blast	**Ground condition:**	hidden root mat rocks/stones woodland
Date record created:	03/01/2008	**Date last modified:**	03/01/2008
No of victims:	1	**No of documents:**	2

Map details

Longitude:		**Latitude:**	
Alt. coord. system:	Not recorded	**Coordinates fixed by:**	
Map east:		**Map north:**	
Map scale:		**Map series:**	
Map edition:		**Map sheet:**	
Map name:			

Accident Notes

inadequate metal-detector (?)

mechanical follow-up (?)

inadequate investigation (?)

mine/device found in "cleared" area (?)

Accident report

The report of this accident was made available in 2006. The report is reproduced below, edited for anonymity. The original file is held on record.

INVESTIGATION REPORT INTO MINE ACCIDENT WHICH OCCURRED ON 30 JULY 2002 AT CMT MINEFIELD, PAILIN

REPORT PREPARED BY: [Name removed] DEPUTY DIRECTOR OPERATIONS AND PLANNING

[The accident site]

[The victim's boot.]

CONTENTS

FORMAL INVESTIGATION SUMMARY FINDINGS

General

1. The formal investigation into the accident was conducted over the period 31 July – 1 August 2002. In addition to visiting the accident scene, three witnesses were interviewed and their evidence recorded. The following is a record of the investigation as well as the summary findings and recommendations.

Terms of Reference

2. The following answers are provided to questions directed by the DDG, [Name removed].

A: Background

What is the history of the minefield? (Witness – IT,2)

The minefield was laid and re-laid between 1988 and 1990 by the Khmer Rouge. The types of mines laid include the Type 69 and Type 72A and TM 59. There has been only one civilian injury in the minefield to date. The purpose of clearing this area is for clearance of a Pagoda site and its surrounding area.

When, where and at what time did the accident occur? (Witness – All)

The accident happened at approximately 10:00 hrs on 30th July 2002 in the as yet named CMT Minefield at Sangkat Steng Kach, Pailin.

Who were the persons involved? (Witness – All)

One person was involved in the accident, [the Victim], a CMT Team Member from CMT Team 07.

What were the circumstances leading up to the accident? (Witness – IT)

The [Demining group] CMT Team had just commenced clearance operations at the hill top Pagoda site the same morning as the accident. Part of the team was clearing an area close to a stream bed at the bottom of the hill which has a lot of rocks and other vegetation. The immediate area above the site is very steep with loose metal.

Describe the nature of the accident in detail. (Witness – IT,1,2,3)

The demining pair were clearing a lane as a team with one doing the detection and the other clearing the vegetation. The pair had just changed around after detection. The victim moved to the top of the clearance lane to re-position the red string lines and begin clearing vegetation and spoil from the next part of the lane prior to detection. As the victim bent down to position the stakes with the red string attached, he stood on a mine with his left foot on the cleared left hand side of the lane. When the mine exploded, the victim’s partner ran to assist him, at the same time, the Team Leader ran down the hill to help. The Team Leader on arrival assessed the situation, had the victim’s partner attempt to control the bleeding and then summonsed the medic to attend to the injury. Demining was at the same time halted at the site. Once stabilized, the victim was transported to the Emergency Hospital at Battambang.

When did clearance operations commence in the minefield? (Witness – IT)

30 July 2002.

Have clearance operations concluded? (Witness – IT)

No.

Has the minefield been handed over to the appropriate authority? (Witness – IT)

No, it has only just begun to be cleared.

Have there been any other accidents of this nature, if so, what are the circumstances? (Witness – IT)

There have been no other demining accidents in the minefield.

B. Analysis

Did the accident occur in a cleared [Demining group] Minefield? (Witness – IT)

No, the minefield is still under clearance.

What caused the injuries? (Witness – IT,2)

Based on the physical evidence, a missed deeply buried Type 72A Anti Personnel Mine.

What was the nature and extent of injuries [Demining group] Deminer? (Witness – IT)

The deminer suffered a blast injury to his left foot that later required amputation above the ankle.

What action was taken immediately after the accident was reported to [Demining group]? (Witness – IT)

The victim who suffered the blast injury was treated at the site by the site medic and then transported immediately to Battambang Emergency Hospital. Clearance operations were temporarily suspended. [Demining group] HQ in Phnom Penh was informed at the same time. Members from the Site moved to the accident scene and conducted their own preliminary scene examination.

What measures could have taken place to prevent the accident? (Witness – IT)

The CMT Team appear to have removed all loose spoil, rocks and stones which is probably the only realistic way this could have been prevented.

Were any [Demining group] SOP or written orders breached? (Witness – IT)

No. SOPs were being followed at the time of the accident.

Are there any problems with our current Mine detectors and their ability to detect Mines or UXO buried up to 10 cm deep? (Witness – IT)

The DU is confident in the mine detectors ability to locate all types of mines up to a depth of 10 cm and larger mines at a depth greater than 10 cm. Our mine detectors are not detecting the Type 72A mine deeper than that.

Were there any problems specific to this minefield or area that made demining difficult? (Witness – IT,2)

Yes. A bulldozer has been used to level the top of the hill and has pushed gravel and stones down the sides of the hill. It is also an old Pagoda site so there is a lot of rubble around. A lot of bush exists at the base of the hill around the stream which also makes it very difficult to demine.

Is there any weakness in our current method of quality control (ensuring that cleared lanes and minefields have been cleared)? (Witness – IT)

Our method of quality control is sound but the point in terms of whether a full 100% check or a spot check of the cleared area is to be made requires clarification and a policy statement by the [Demining group] executive.

Are there any command and control problems? (Witness – IT)

No, the site appears well run and generally well supervised.

Is it possible that other Mines/UXO remain uncleared in the minefield? (Witness – IT)

Yes. Where there is one, others will surely be found.

Comment on other matters disclosed in the investigation which are not mentioned above which may be relevant to the investigation. (Witness – IT)

This accident appears to have shaken the team up and may reduce their confidence. Visits to reassure the team and talk with them would go a long way to getting them back to full capacity.

C. Post Accident

Were all accident notifications completed according to internal orders/SOP? (Witness – IT)

The accident was reported in an expeditious manner. New [Demining group] SOPs, yet to be released, cover in depth the procedures to be followed in such an eventuality as this.

How can we prevent this from happening again in the future? (Witness – IT)

Until [Demining group] finds a solution to detecting deep buried Type 72A mines, this problem will continue to exist.

What if anything has been done to assist the accident victim? (Witness – IT)

The victim has been visited in hospital and appears quite cheerful for a person who has suffered so badly. The issue of compensation should now be pursued as soon as possible.

Conclusion

5. Based on the evidence, it is the inquiry teams opinion that the cause of the accident was that of a yet another deeply buried Type 72A mine, too deep to be detected and missed in the clearance of the lane.

Recommendations7. The investigation team after consideration of all factors makes the following recommendations:a. As with all previous investigations involving missed deeply buried Type 72A mines, [Demining group] must very quickly investigate either internally within [Demining group] or the Cambodian demining community or Internationally, to assist in helping seek a solution to this now [Demining group] wide problem. [Demining group] can ill afford to continue to hold off on finding a speedy solution or risk being held accountable for the mounting casualty rate.

b. Once again, very careful reconnaissance will assist in identifying potential clearance problems and allow the organisation to find safe and effective solutions to the problem. To not do this and to not identify clearance strategies is to potentially risk injury in yet another demining accident.

c. All recommendation from previous investigations conducted in the last two months should be reviewed in conjunction with this report.

Signed at: Battambang, July 2002, [Name removed], Investigation Team Leader

Victim Report

Victim number: 603 **Name:** [Name removed]

Age: **Gender:** Male

Status: deminer **Fit for work:** not known

Compensation: Not made available **Time to hospital:** Not recorded

Protection issued: Not recorded **Protection used:** Not recorded

Summary of injuries:

AMPUTATION/LOSS: Leg Below knee

COMMENT: No Medical report was made available.

Related papers

ORDER FOR ASSEMBLY OF FORMAL INVESTIGATION

Orders by: [Name removed] Director General, Cambodian Mine Action Centre

A formal investigation is to be conducted as soon as possible for the purpose of collecting and recording evidence into the Mine Accident that occurred on 30 July 2002 in the CMT Minefield, Pailin, in which a deminer was injured.

The investigation team is to prepare a report and provide comment based on its findings. The Team leader is to present the findings of the investigation to the [Demining group]] executive council within five days of the conduct of the investigation.

Team Leader: [Name removed] Deputy Director Operations and Planning

Observer: [Name removed]

The team leader may summons any witnesses to attend who are employees of [Demining group] and may only request the assistance of any civilian witness/witnesses in helping with the investigation.

TERMS OF REFERENCE

Background

1. What is the history of the minefield?
2. When, where and at what time did the accident occur?
3. Who were the persons involved?
4. What were the circumstances leading up to the accident?
5. Describe the nature of the accident in detail.
6. When did clearance operations commence in the minefield?
7. Have clearance operations concluded?
8. Has the minefield been formally handed over to the appropriate authority?

9. Have there been any previous accident and if so, what were their nature?

Analysis

1. Where did the accident occur?

2. What caused the injuries?

3. What was the nature and extent of the injuries to the deminer?

4. What action was taken immediately after the accident was reported to [Demining group]?

5. What measures could have taken place to prevent the accident?

6. Were any [Demining group] SOP or written orders breached?

7. Is there any weakness in our current method of quality control (ensuring that cleared lanes and minefields have been cleared?

8. Were there any problems specific to this minefield or area that made demining difficult?

9. Were there any command and control problems?

10. Are there any problems with our current mine detectors and their ability to detect mines or UXO buried up to 10 centimetres deep?

11 Is it possible that other mines or UXO remain uncleared in the minefield?

12. Comment on other matters disclosed in the investigation, which are not mentioned above that may be relevant to the investigation

Post Accident

1. Were all accident notifications completed according to internal order/SOP?

2. How can we prevent this from happening again in the future?

3. What if anything has been done to assist the accident victim?

Signed at: Phnom Penh, July 2002

[Name removed], Deputy Director General, Cambodian Mine Action Centre

Analysis

The primary cause of this accident is listed as a “Management control inadequacy” because the tools deployed to clear the area were known to be inadequate. Alternative means of clearance (area excavation) could have been conducted. The secondary cause is listed as “Inadequate equipment” because the metal-detector in use could not reliably locate the threat mine at the required depth.

A timely and enthusiastic report was let down by the investigator’s failure to record the CASEVAC details, accident position and whether the victim was wearing PPE correctly.